

ACTIVE PIXEL SENSOR ARRAY WITH SIMPLE FLOATING GATE PIXELS

Abstract of the Disclosure:

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5 An imaging device formed as a monolithic complementary  
metal oxide semiconductor integrated circuit in an industry  
standard complementary metal oxide semiconductor process,  
the integrated circuit including a focal plane array of  
pixel cells, each one of the cells including a photogate  
overlying the substrate for accumulating photo-generated  
10 charge in an underlying portion of the substrate and a  
charge coupled device section formed on the substrate  
adjacent the photogate having a sensing node and at least  
one charge coupled device stage for transferring charge from  
the underlying portion of the substrate to the sensing node.  
15 There is also a readout circuit, part of which can be  
disposed at the bottom of each column of cells and be common  
to all the cells in the column. A Simple Floating Gate  
(SFG) pixel structure could also be employed in the imager  
to provide a non-destructive readout and smaller pixel  
20 sizes.

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